



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/026,151	12/19/2001	Ertugrul Berkcan	RD-28,476	8199
7590 John S. Beulick Armstrong Teasdale LLP Suite 2600 One Metropolitan Sq. St. Louis, MO 63102			EXAMINER KARLSEN, ERNEST F	
			ART UNIT 2829	PAPER NUMBER
			MAIL DATE 06/07/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/026,151

Applicant(s)

BERKCAN ET AL.

Examiner

Ernest F. Karlsen

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 6, 7, 9-13, 16, 17, 19-24, 26, 28 and 29 is/are pending in the application.
- 4a) Of the above claim(s) 9, 19, 21-24, 26, 28 and 29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6, 7, 10-13, 16, 17 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claims 1-3, 6, 7, 9-13, 16, 17, 19-24, 26, 28 and 29 are pending.

Claims 4, 5, 8, 14, 15, 18, 25 and 27 are cancelled.

Claims 1-3, 6, 7, 10-13, 16, 17 and 20 are active.

Claims 9, 19, 21-24, 26, 28 and 29 are withdrawn.

The Examiner made an error of omission in the Office Action of March 15, 2007. Claim 29 was listed as belonging to Invention II in the Restriction of November 21, 2006. Applicants elected Invention I and Species I in their response of December 21, 2006. The Examiner failed to include claim 29 in the withdrawn list of claims in the Office Action of March 15, 2007. Applicants argue in their response of March 26, 2007 that because claim 29 was not mentioned in the Office Action of March 15, 2007 that it is an active claim. The Examiner made an error in omitting claim 29 from the list of withdrawn claims. Clearly claim 29, as a member of a withdrawn Invention, should have been withdrawn. Claim 29 is withdrawn as set forth below.

Claims 9, 19, 21-24, 26, 28 and 29 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention and/or species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on December 21, 2006.

The amendment filed March 26, 2007 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: There is no original support for the changes to the drawing figure now identified as Figure 2B. Also

there is no original support for the amendment to the specification following paragraph [0007] because such relates to the drawing figure mentioned above. The amendment to the specification immediately following paragraph [0011] has 39 lines. Lines 22-39 of the amendment to the specification immediately following paragraph [0011] are considered to contain new matter.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claims 1-3, 6, 7, 10-13, 16, 17 and 20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The limitation "and aligned substantially perpendicularly to a longitudinal axis of the conductor and in the same plane as the conductor portions on either side of the aperture" does not have basis in the original disclosure. There is no original disclosure of the positional relationship of the Hall effect devices and the conductor.

Claims 1-3, 6, 7, 10-13, 16, 17 and 20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. It is not clear how plural Hall devices would be placed in the slot of the conductor 16 of Figure 2 to produce the desired result. No disclosure is present explaining how to configure each Hall effect device to detect the predetermined

shape of the magnetic field. The Examiner is not aware that a Hall effect device can detect a predetermined shape of a magnetic field. It is further not clear how the Hall effect devices would be configured to be insensitive to fields other than the fields of predetermined shape. It is not clear what the predetermined shape would be that the Hall effect devices would sense. It is not clear from the specification how the Hall devices of Figure 1 are to be positioned in the slot of Figure 2, or indeed, if they are to be positioned in the slot of Figure 2. The specification states in paragraph 0011 that the current in conductor 16 is divided into two equal components. It would appear that such would result in equal and opposite fields in slot 32 which would cancel resulting in a zero field. How the sensor of Figure 1 could detect a zero field is unclear. It is unclear how the circuitry of Figure 4 is structured. Some elements are not connected to anything.

The above rejection is essentially the same as that previously applied. Applicants argue that a Hall plate can determine the shape of a field. The Examiner contends that a Hall plate placed stationary in a magnetic field would at best measure the average of the field intersected by the Hall plate. It is still not clear how a Hall plate could be configured to respond to a field of one shape and not to a field of another shape. The Examiner does not understand what is meant by configuring a Hall plate. Applicants in their arguments and in the proposed amendment to the specification go through a series of possibilities of configurations for the Hall plates and the slotted conductor which seem to be presented as obvious possibilities and then the claims are

Art Unit: 2829

amended to incorporate one of the possibilities. The Examiner considers such to be new matter.

Claims 1-3, 6, 7, 10-13, 16, 17 and 20 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear what is meant by the conductor being configured to generate a magnetic field having a predetermined shape, the Hall effect device being configured to detect a magnetic field of predetermined shape or the Hall effect device being configured to be insensitive to magnetic fields having shapes other than the predetermined shape. It is also not clear what is meant by "and aligned substantially perpendicularly to a longitudinal axis of the conductor and in the same plane as the conductor portions on either side of the aperture"

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 6, 7, 10-13, 16, 17 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Ladds. With regard to claims 1, 3, 7, 10 and 20. Ladds shows a current sensor in Figures 6-9 having a plurality of Hall effect devices H1, H2, a conductor C that generates a field of a particular shape where each Hall effect device is

configured to detect a field of a particular shape and be insensitive to fields of other shapes. With regard to claims 2, 11-13, 16, 17 and 20 Ladds discloses use of his device in a watt-hour meter at column 1, lines 1-10, column 2, lines 40-45 and in claim 17. With regard to claims 6 and 16 all Hall effect devices are temperature responsive and thus having a non-linear component is inherent. The limitation of "and aligned substantially perpendicularly to a longitudinal axis of the conductor and in the same plane as the conductor portions on either side of the aperture" is considered inherent in the apparatus of Ladds.

In response to Applicants' arguments, note that Ladds subtracts the effects of an undesired field produced external the sensor from the effects of a desired field plus the undesired field.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ernest F. Karlsen whose telephone number is 571-272-1961. The examiner can normally be reached on 8 hrs. Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ha Nguyen can be reached on 571-272-1678. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ernest F. Karlsen

June 4, 2007


ERNEST KARLSEN
PRIMARY EXAMINER